

## CLAIMS

1. A method of screening a compound or a salt thereof that changes the binding property of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof, to a ligand peptide comprising the amino acid sequence represented by any one of SEQ ID NO: 3 through SEQ ID NO: 7, its amide, or a salt thereof, or signal transduction, which is characterized by using (1) said receptor protein, its partial peptide, or a salt thereof, and (2) said ligand peptide, its amide, or a salt thereof.

2. A method of screening an agonist or antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof, which is characterized by using (1) said receptor protein, or its partial peptide, or a salt thereof, and (2) a compound or a salt thereof that changes the binding property of a ligand peptide comprising the amino acid sequence represented by any one of SEQ ID NO: 3 through SEQ ID NO: 7, its amide, or a salt thereof, to said receptor protein or a salt thereof, or signal transduction.

3. A kit for screening a compound or a salt thereof that changes the binding property of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof, to a ligand peptide comprising the amino acid sequence represented by any one of SEQ ID NO: 3 through SEQ ID NO: 7, its amide, or a salt thereof, or signal transduction, which is characterized by (1) said receptor protein, its partial peptide, or a salt thereof, and (2) said ligand peptide, its amide, or a salt thereof.

4. A kit for screening an agonist or antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof, which is characterized by (1) said receptor protein, or its partial peptide, or a salt thereof, and (2) a compound or a salt thereof that changes the binding property of a ligand peptide comprising the amino acid sequence represented by any one of SEQ ID NO: 3 through SEQ ID NO: 7, its amide, or a salt thereof, to said receptor protein or a salt thereof, or signal transduction.

5. A pharmaceutical comprising a compound or a salt thereof that changes

the binding property of a ligand peptide comprising the amino acid sequence represented by any one of SEQ ID NO: 3 through SEQ ID NO: 7, its amide, or a salt thereof, to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID

5 NO: 1, or a salt thereof, or signal transduction.

6. The pharmaceutical according to claim 5, which is an agent for preventing/treating asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head  
10 injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary  
15 tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer.

7. A method of screening an agonist for a G protein-coupled receptor protein  
20 comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof, which is characterized by assaying an intracellular cAMP production inhibition activity in the case where a test compound is brought in contact with a cell containing said receptor protein.

8. An agent for preventing/treating asthma, allergic disease, inflammation,  
25 inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis  
30 deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated  
35 intravascular coagulation syndrome, immunodeficiency, infections or cancer, which

comprises a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof.

9. An agent for preventing/treating asthma, allergic disease, inflammation,  
 5 inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis  
 10 deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated  
 15 intravascular coagulation syndrome, immunodeficiency, infections or cancer, which comprises a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a partial peptide thereof.

20 10. A diagnostic agent for asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS  
 25 encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis,  
 30 posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer, which comprises a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a  
 35 partial peptide thereof.

11. An agent for preventing/treating asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer, which comprises an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof.

12. A diagnostic agent for asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer, which comprises an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof.

13. An agent for preventing/treating asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS

encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral  
 5 infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer, which comprises the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein  
 10 comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a partial peptide thereof.

14. A method for preventing/treating asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral  
 15 infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral  
 20 infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer, which is characterized by administering to a mammal an effective dose of (i) a G  
 25 protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID  
 30 NO: 1, or a partial peptide thereof, or (iii) an agonist for a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof.

15. A method for preventing/treating asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia,  
 35 systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral

infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's

5 disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer, which

10 is characterized by administering to a mammal an effective dose of (i) an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide

15 encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a partial peptide thereof, or (iii) an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof.

20 16. Use of (i) a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid

25 sequence represented by SEQ ID NO: 1, or a partial peptide thereof, or (iii) an agonist for a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof, to manufacture an agent for preventing/treating asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease,

30 autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis,

35 synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis,

pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer.

17. Use of (i) an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a partial peptide thereof, or (iii) an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, or a salt thereof, to manufacture an agent for preventing/treating asthma, allergic disease, inflammation, inflammatory eye diseases, Addison's disease, autoimmune hemolytic anemia, systemic lupus erythematosus, psoriasis, rheumatism, cerebral hemorrhage, cerebral infarction, head injury, spinal cord injury, cerebral edema, multiple sclerosis, Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), AIDS encephalopathy, meningitis, diabetes mellitus, chronic articular rheumatism, arthritis deformans, rheumatoid spondylitis, gouty arthritis, synovitis, toxemia, Crohn's disease, ulcerative colitis, chronic pneumonia, silicosis, pulmonary sarcoidosis, pulmonary tuberculosis, cachexia, arteriosclerosis, Creutzfeldt-Jakob disease, viral infections, angina pectoris, myocardial infarction, congestive heart failure, hepatitis, posttransplantational hyperimmunization, dialysis hypotension, disseminated intravascular coagulation syndrome, immunodeficiency, infections or cancer.